

WHAT IS CLAIMED IS:

1. An isolated Ozz protein.
2. The Ozz protein of claim 1 which is a human Ozz protein.
3. The Ozz protein of claim 2 which has an amino acid sequence as depicted in SEQ ID NO:4.
4. The Ozz protein of claim 1 which is a mouse Ozz protein.
5. The Ozz protein of claim 3 which has an amino acid sequence as depicted in SEQ ID NO:2.
6. The Ozz protein of claim 4 which is encoded by a nucleic acid having a sequence as depicted in SEQ ID NO:1, or by a nucleic acid which is hybridizable under stringent conditions with a nucleic acid having a sequence as depicted in SEQ ID NO:1 or its complement.
7. A fragment, analog, or derivative of the Ozz protein of claim 1, which fragment, analog, or derivative has the ability to bind a protein selected from the group consisting of β -catenin, myosin, c-Nap, and Alix.
8. A polypeptide fragment of an Ozz protein, wherein the fragment has a property selected from the group consisting of:
 - a) having about 40% sequence identity to a duplicated neuralized homology repeats (NHRs) of neuralized protein of *Drosophila*;
 - b) comprising a stretch of about 30 amino acids at the C-terminus homologous to two regions of neuralized proteins;
 - c) comprising an amino acid sequence selected from the group consisting of SEQ ID NOS:5, 7, 9, and 11;
 - d) comprising an amino acid sequence selected from the group consisting of GTRATR (SEQ ID NO:19), GVCFSR (SEQ ID NO:20), GQPEA (SEQ ID

NO: 21), KGLKDFCKY (SEQ ID NO: 22),
PSLQTLCLRLVIQRSMVHRLAIDGLHLPKELKDFCKYE (SEQ ID NO:23), and
SLxxxCxxxI (SEQ ID NO:24); and

e) specific binding activity with an anti-Ozz antibody.

9. An isolated nucleic acid encoding the Ozz protein of claim 1.

10. The nucleic acid of claim 9 which is a cDNA.

11. The nucleic acid of claim 9, wherein the Ozz protein is a human Ozz protein.

12. The nucleic acid of claim 11 which comprises a nucleotide sequence as depicted in SEQ ID NO:3.

13. The nucleic acid of claim 9, wherein the Ozz protein is a mouse Ozz protein.

14. The nucleic acid of claim 13 which comprises a nucleotide sequence as depicted in SEQ ID NO:1.

15. A vector comprising a nucleic acid encoding a fragment of an Ozz protein operatively associated with an expression control sequence, wherein the fragment of an Ozz protein has the ability to bind a protein selected from the group consisting of β -catenin, myosin, c-Nap, and Alix.

16. The vector according to claim 15, wherein the fragment of an Ozz protein is a full length Ozz protein.

17. A host cell transfected with the vector of claim 15.

18. A non-human animal transformed with the vector of claim 15, wherein the animal expresses an Ozz protein.

19. A method for producing *Ozz* protein comprising isolating *Ozz* protein produced by the host cells of claim 17, wherein the host cells have been cultured under conditions that provide for expression of the *Ozz* protein by the vector.

20. An isolated nucleic acid of at least ten bases that hybridizes under stringent conditions with a nucleic acid having a nucleotide sequence as depicted in SEQ ID NO:1 or SEQ ID NO:3, with the proviso that the nucleic acid is not a PPCA exon Ia.

21. The nucleic acid of claim 20, wherein at least ten nucleotides are from the nucleic acid sequence as depicted in SEQ ID NO:1 or SEQ ID NO:3.

22. An isolated *Ozz* muscle-specific promoter.

23. A vector comprising a heterologous gene operatively associated with the muscle-specific promoter of claim 22.

24. An antibody that specifically binds to the *Ozz* protein of claim 1.

25. A method for detecting an *Ozz* protein comprising detecting binding of the antibody of claim 24 to a protein in a sample suspected of containing an *Ozz* protein, wherein the antibody is contacted with the sample under conditions that permit specific binding with any *Ozz* protein present in the sample.

26. A method for detecting expression of *Ozz* comprising detecting mRNA encoding *Ozz* in a sample from a cell suspected of expressing *Ozz*.

27. The method according to claim 28 wherein mRNA encoding *Ozz* is detected by hybridization to an *Ozz*-specific nucleic acid.

28. The method according to claim 27 wherein the *Ozz*-specific nucleic acid is *Ozz* cDNA.

1 29. A method for detecting damage to muscle tissue comprising detecting an
2 increase in the level of Ozz protein in a blood or a blood fraction, wherein the presence of an
3 increase in the level of Ozz in blood or a blood fraction indicates damage to muscle tissue.

1 30. The method according to claim 29 wherein the muscle is the heart.

1 31. A method for detecting a disease associated with a defect in Ozz expression
2 in a subject, which method comprises detecting an abnormal level or localization of Ozz in muscle
3 cells from a subject.

1 32. The method according to claim 31, wherein the disease is galactosialidosis.

1 33. The method according to claim 32, wherein the muscle cells are from the
2 atrium of the heart.

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